

## PREFACE

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### 100 Years of Histology and Embryology Research and Teaching in Slovakia

Dear readers,

It is a great honour to introduce this supplement to Physiological Research dedicated to the 100 years of histology and embryology teaching and research in the territory of the Slovak Republic. Although the oldest Faculty of Medicine in Slovakia (as a part of the Comenius University in Bratislava) was established in 1919, the first three years of its existence had been exclusively dedicated to clinical teaching. Therefore, it has been exactly 100 years since histology and embryology were first taught in Slovakia. As a matter of fact, other theoretical courses like biology, anatomy, medical chemistry or biophysics and their corresponding institutes also did not exist until 1922 or 1923.

The task of establishing an Institute of Histology and Embryology was delegated to Professor Zdeněk Frankenberger (1892-1996). He came to Bratislava from Charles University in Prague (present-day Czech Republic). Shortly after Zdeněk Frankenberger arrived in Bratislava, he was appointed the Comenius University professor by a decree from November 18, 1922. Despite his young age (he was only 30 then), professor Frankenberger was already an experienced scholar who had been previously (in 1918) asked to found an Institute of Histology at a newly established university in Ljubljana (present-day Slovenia). Professor Frankenberger was the head of the Institute of Histology and Embryology in Bratislava for 14 years overall, while at the same time, he was setting up the Institute of Anatomy and Institute of Medical Biology. As the Dean, he also founded other theoretical institutes at the Faculty of Medicine in Bratislava. Apart from histology and embryology, Prof. Frankenberger was also endowed with deep knowledge of biology, mainly palaeoanthropology and zoology.

Another essential personality was Professor Ivan Stanek (1915-1972), who significantly influenced many generations of Slovak physicians. He held the head position from the end of World War II until his untimely death. Among his vast research interests, he mainly focused on classifying glial cells

of the nervous tissue, studied macrophages in different organs, and was among the pioneers of *in vitro* tissue culture. Ivan Stanek was not only a renowned scientist but also an exceptional teacher. He regarded the education of future physicians as his central life goal. He rose to fame mainly thanks to his understandable and captivating lectures and illustrative embryo drawings. One of his most remarkable skills as a teacher was explaining complex concepts in plain language. His embryology textbook (1<sup>st</sup> edition published in 1952) was the first nationwide embryology textbook in Czechoslovakia and was even translated into Russian.

Professor Karol Kapeller (born 1926), who headed the institute between 1980-1990, undoubtedly has to be recognized in the contemporary history of the institute. In the 1960s, as a research fellow at the University of Sheffield, Professor Kapeller participated in a series of experiments, resulting in several original papers on the axonal transport of noradrenalin in the nerve fibres of the sympathetic nervous system. For these original contributions to the ultrastructure of the autonomic nervous system, he won the National Award of the Slovak Republic for Research in Medicine (1987), as well as many other prestigious accolades.

Nowadays, the research at the institute is focused on several key areas. Recently, a new Centre for electron microscopic methods was founded under the professional supervision of Professor Stefan Polak. Another cardinal area is lymphatic system research, focused on the development and ultrastructure of the thymus and spleen. Researchers of the institute also pay scientific attention to the innovation of histological and embryological terminology. Finally, the latest line of research is reproductive medicine – the topic of our special issue.

From the perspective of morphological sciences, reproductive medicine integrates knowledge of functional anatomy and histology of the male and female reproductive organs, the interaction of sperm with cells of the female

reproductive system, mechanisms of fertilization and embryo implantation, early embryo development, and clinical aspects of the diagnosis and treatment of infertility by the methods of assisted reproduction (clinical embryology). For this purpose, we recently created a new course for undergraduate medical students focused entirely on reproductive medicine and clinical embryology. In this special issue, we also discuss our experiences with the course.

This special supplement to *Physiological Research* is dedicated to the 100<sup>th</sup> anniversary of the Institute of Histology and Embryology at the Faculty of Medicine, Comenius University in Bratislava, Slovakia. The subject matter of the majority of papers is reproductive medicine from different perspectives, authored mainly by the employees of our faculty in collaboration with clinical experts in various fields – i.e., gynaecologists, pathologists, microbiologists, reconstructive and plastic surgeons or experts in reproductive medicine. Moreover, this special supplement also set the stage for publishing the research results of those foreign experts from various prestigious institutions with whom our institute has been collaborating for years or even decades. These include Charles University in Prague, Czech Republic, and Medical University in Graz, Austria.

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